C	RUNDFOS X	Company name: Created by: Phone:
		Date:
Count	Description	
1	CRN 10-9 A-FGJ-A-E-HQQE	



Product No.: 96523269

Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid are in high-grade stainless steel. A cartridge shaft seal ensures high reliability, safe handling, and easy access and service. Power transmission is via a rigid split coupling. Pipe connection is via combined DIN-ANSI-JIS flanges.

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The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

Further product details

Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:

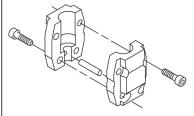
1) Alkaline-based cleaning.

- 2) Zinc phosphating.
- 3) Cathodic electro-deposition.
- 4) Curing to a dry film thickness 18-22 my m.

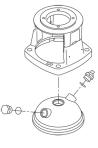
The colour code for the finished product is NCS 9000/RAL 9005.

Pump

A standard split coupling connects the pump and motor shaft. It is enclosed in the pump head/motor stool by means of two coupling guards.



The pump head and flange for motor mounting is made in one piece (cast iron). The pump head cover is a separate component (stainless steel). The pump head has a combined 1/2" priming plug and vent screw.



The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system. This seal type is assembled in a cartridge unit which makes replacement safe and easy. Due to the balancing, this seal type is suitable for high-pressure applications. The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.

Primary seal:

Rotating seal ring material: silicon carbide (SiC)



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• Stationary seat material: silicon carbide (SiC) This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Date:

Secondary seal material: EPDM (ethylene-propylene rubber)

EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.



The shaft seal is screwed into the pump head.

The pump has a special air-cooled shaft-seal chamber generating the same insulation effect as that of a vacuum flask. No external cooling is necessary; the ambient temperature is sufficient. An automatic vent vents the pump seal chamber.

The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck ring offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.

The pump has a stainless steel base mounted on a separate base plate. This base and base plate are kept in position by the tension of the staybolts which hold the pump together. The outlet side of the base has a combined drain plug and bypass valve. The pump is secured to the foundation by four bolts through the base plate. The flanges and base are cast in one piece and prepared for connection by means of DIN, ANSI or JIS.

Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with free-hole flange (FF).

Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II). Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as premium efficiency in accordance with EISA2007.

The motor has thermistors (PTC sensors) in the windings in accordance with DIN 44081/DIN 44082. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions. Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to

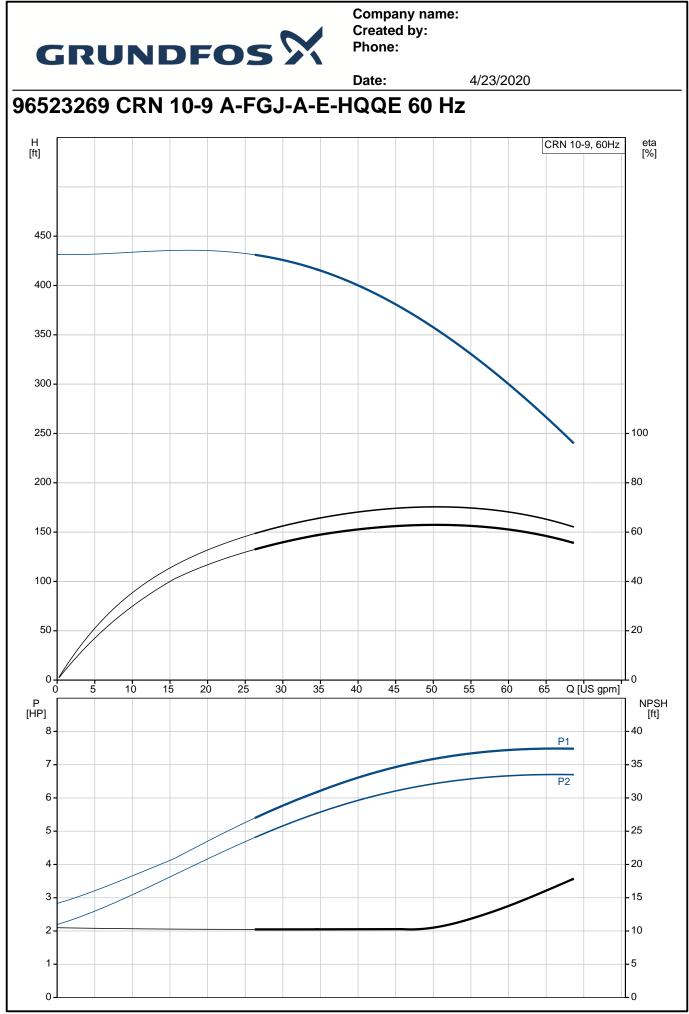
local regulations. The motor can be connected to a variable speed drive for adjustment of pump performance to any duty point. Grundfos CUE offers a range of variable speed drives. Please find more information in Grundfos Product Center.

Technical data

Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density:	Water -4 248 °F 68 °F 62.29 lb/ft ³
Technical: Rated pump speed:	3467 rpm
Rated flow:	53.3 US gpm
Rated head:	341.6 ft
Actual impeller diameter:	3.66 in
Pump orientation:	Vertical



int	Description		
	Shaft seal arrangement:	Single	
	Code for shaft seal:	HQQE	
	Approvals on nameplate:	CURUS	
	Curve tolerance:	ISO9906:2012 3B	
	Curve tolerance.	1309900.2012 35	
	Materials:		
	Base:	Stainless steel	
		EN 1.4408	
		AISI 316	
	Impeller:	Stainless steel	
		EN 1.4401	
		AISI 316	
	Bearing:	SIC	
	Dearing.		
	Installation:		
	Maximum ambient temperature:	140 °F	
	Maximum operating pressure:	362.59 psi	
	Max pressure at stated temperat		
		363 psi / -4 °F	
	Type of connection:	DIN / ANSI / JIS	
	Size of inlet connection:	DN 50	
	Size of outlet connection:	DN 50	
	Pressure rating for connection:		
	Flange rating inlet:	300 lb	
	Flange size for motor:	213TC	
	Flange size for motor.	21310	
	Electrical data:		
	Motor standard:	NEMA	
	Motor type:	132DA	
	IE Efficiency class:	NEMA Premium / IE3 60Hz	
	Rated power - P2:	7.5 HP	
	Power (P2) required by pump:	7.5 HP	
	Main frequency:	60 Hz	
	1 2		
	Rated voltage:	3 x 208-230YY/460Y V	
	Service factor:	1.15	
	Rated current:	19,5-18,1/9,09 A	
	Starting current:	1020-1480 %	
	Cos phi - power factor:	0.89-0.86	
	Rated speed:	3490-3520 rpm	
	IE efficiency:	IE3 89,5%	
	Motor efficiency at full load:	89.5 %	
	Motor efficiency at 3/4 load:	89.7 %	
	Motor efficiency at 1/2 load:	88.3 %	
	Number of poles:	2	
	Enclosure class (IEC 34-5):	55 Dust/Jetting	
	Insulation class (IEC 85):	F	
	Motor Number:	85904392	
	Controls:		
	Frequency converter:	NONE	
	Otheres		
	Others:	0.07	
	DOE Pump Energy Index CL:	0.87	
	Net weight:	194 lb	
	Gross weight:	214 lb	
	Shipping volume:		
	Country of origin:	US	
,	Custom tariff no.:	8413.70.2040	
	Shipping volume: Country of origin:		



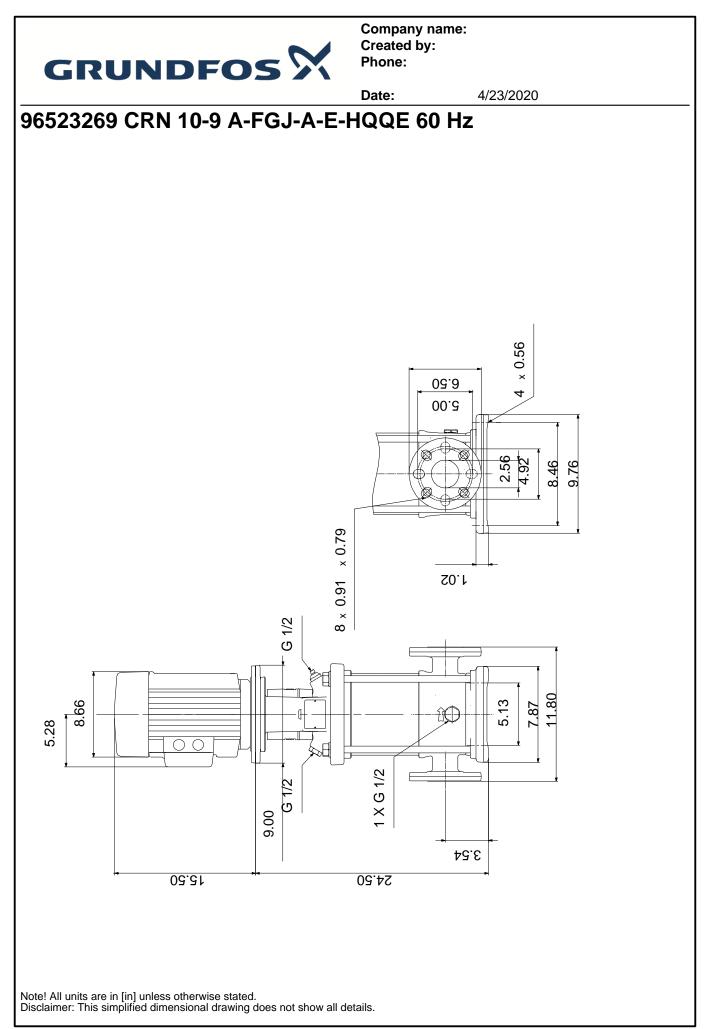


		Date:	4/23/2020		
Description	Value	H [ft]		CRN 10-9, 60Hz	eta [%]
General information:					
Product name:	CRN 10-9 A-FGJ-A-E-HQQE	450 -			
Product No.:	96523269	-			
EAN:	5700396901350	400 -			
	5700396901350	350 -			
Technical:					
Rated pump speed:	3467 rpm	300 -			
Rated flow:	53.3 US gpm	-			
Rated head:	341.6 ft	250 -			- 100
Maximum head:	433.1 ft	200 -			- 80
Actual impeller diameter:	3.66 in	200-			- 80
Stages:	9	150 -			- 60
Impellers:	9				
Number of reduced-diameter impellers:	0	100-			- 40
Low NPSH:	Ν	50 -			- 20
Pump orientation:	Vertical				
Shaft seal arrangement:	Single	0 1 0 10	20 30 40	50 Q [US gpm]	L ₀
Code for shaft seal:	HQQE	P [HP]			NPS
Approvals on nameplate:	CURUS			P1	[ft]
Curve tolerance:	ISO9906:2012 3B	7-			- 35
Pump version:	A	6 -		P2	- 30
Model:	A	5-			- 25
Cooling:	TEFC	4 -			- 20
Materials:	1210	3			- 15
Base:	Stainless steel	2			- 10
	EN 1.4408	1			-5
	AISI 316	<u> </u>			Ľ
Impeller:	Stainless steel				- 0
	EN 1.4401		5.28		
	AISI 316		8.66		
Material code:	AISI STO	-			
Code for rubber:	E	15.50			
Bearing:	SIC		4		
Installation:	510	9.00			
Maximum ambient temperature:	140 °F	<u>G 1/2</u>	6 1/2		
Maximum operating pressure:	362.59 psi	_			
	363 psi / 250 °F		2		
Max pressure at stated temperature:	363 psi / -4 °F	- , [
Type of connection:	DIN / ANSI / JIS	3.54		9°2′	
Size of inlet connection:	DN 50	-	5.13	2.56 4.92 4 × 0.56	
Size of outlet connection:	DN 50	-	11:80	8.46	
Pressure rating for connection:	PN 25			9.76	
-	300 lb				
Flange rating inlet:		-			
Flange size for motor: Connect code:	213TC FGJ				
	i GJ	· · · · · ·	WARNING		
Liquid: Pumped liquid:	Water	WITH THE NATION	GROUNDED IN ACCORDANCE AL ELECTRICAL CODE AND TRAINED PERSONNEL TO		
	-4 248 °F	PREVENT SERIOU	S ELECTRICAL SHOCKS.		
Liquid temperature range:	-4 248 °F 68 °F	SOURCE FROM MO	DR, DISCONNECT POWER DTOR AND ANY ACCESSORY OW MOTOR TO COME TO A		
Selected liquid temperature:		COMPLETE STANE	STILL.		
Density:	62.29 lb/ft ³	LOW VOLTAGI 60Hz. 208-230\ 6 5			
Electrical data:		- 9 9 8 9	7 ♥ 6♥ 5♥ 4♥		
Motor standard:	NEMA 122DA	3∳ 2∳	1♥ 8♥ 7♥ 3♥ 2♥ 1♥ N		
Motor type:	132DA	L3 L2	L1		
IE Efficiency class:	NEMA Premium / IE3 60Hz		NTERCHANGE ANY TWO LINE MILES TO BEVERSE ROTATION THERMOSTAT LEADS J		
Rated power - P2:	7.5 HP		THERMOSTAT LEADS J J J J J		
Power (P2) required by pump:	7.5 HP				
Main frequency:	60 Hz				

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		Date:	4/23/2020
Description	Value		
Rated voltage:	3 x 208-230YY/460Y V	_	
Service factor:	1.15		
Rated current:	19,5-18,1/9,09 A		
Starting current:	1020-1480 %		
Load current:	22,4-20,8/10,4 A		
Cos phi - power factor:	0.89-0.86		
Rated speed:	3490-3520 rpm		
IE efficiency:	IE3 89,5%		
Motor efficiency at full load:	89.5 %		
Motor efficiency at 3/4 load:	89.7 %		
Motor efficiency at 1/2 load:	88.3 %		
Number of poles:	2		
Enclosure class (IEC 34-5):	55 Dust/Jetting		
Insulation class (IEC 85):	F		
Motor protection:	PTC		
Motor Number:	85904392		
Controls:			
Frequency converter:	NONE		
Others:			
DOE Pump Energy Index CL:	0.87		
Net weight:	194 lb		
Gross weight:	214 lb		
Shipping volume:	10.1 ft ³		
Country of origin:	US		
Custom tariff no .:	8413.70.2040		





Date: 4/23/2020 96523269 CRN 10-9 A-FGJ-A-E-HQQE 60 Hz WARNING \bigwedge MOTOR MUST BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES BY TRAINED PERSONNEL TO PREVENT SERIOUS ELECTRICAL SHOCKS. TO SERVICE MOTOR, DISCONNECT POWER SOURCE FROM MOTOR AND ANY ACCESSORY DEVICES AND ALLOW MOTOR TO COME TO A COMPLETE STAND STILL. HIGH VOLTAGE LOW VOLTAGE 60Hz: 460V 60Hz. 208-230V 50Hz: 400V 5 6 4 5⊜ 6⊜ 4⊜ 9 8⊜ 7⊜ 9 7⊜ 8 2 3⊜ 1⊜ 3⊜ 2⊜ 1⊜ 96553852 L2 L1 L3 L3 L2 L1 INTERCHANGE ANY TWO LINE WIRES TO REVERSE ROTATION THERMOSTAT LEADS 🖨 J 🖨 J (WHEN PROVIDED)

All units are [in] unless otherwise presented.